The patriarchs in Washington, then, were talking of a promising novice in New York, named Frank M. Chapman. In Washington, a high school student, C. W. Richmond, by name, was making wistful calls at the Smithsonian and the Agricultural Department, seeking precious light.

Leaving Washington to enter Cornell University, in 1890, my life there promised to be as tranquil as the trill of a field sparrow on a summer day.

But at Ithaca, a professor's son, whose initials were L. A. F., asked me to give him confidential instruction in skinning birds and obtaining bird books, because his father did not desire him to be a naturalist! So runs the world away!

ARDMORE, PA.

A MENSURAL STUDY OF A COLLECTION OF GRUS CANADENSIS FROM IOWA AND NEBRASKA

BY PHILIP A. DU MONT

In view of the fact that the measurements, as recorded for *Grus canadensis canadensis* (Linnaeus) and *Grus canadensis tabida* (Peters) by most authors, show a rather marked degree of differentiation, it seems advisable to place on record the results of a study of twenty-eight specimens contained in the collection of the Museum of Natural History, University of Iowa. I believe these measurements indicate more nearly the slight differences between these forms, as found in specimens taken through the Missouri River Valley region during migration. This intergradation, therefore, confirms the opinion of Oberholser¹ and Hartert², who accorded them subspecific rank.

Grinnell³ took a series of measurements of museum material totaling 107 specimens almost impartially divided between *canadensis* and *tabida*. The outstanding result of this scrutiny was the complete intergradation of the two races. He found that a plot of wing dimensions showed less division than did that of the tarsus.

In the determination of this material at hand, I have used the factors of wing length and extent of exposed culmen, and, at least for this area, these seem to suffice as subspecific characters.

While the measurements of wing, exposed culmen, culmen from nostril, depth of culmen at base, and length of middle toe (without

¹ Auk, XXXVIII, 1921, pp. 80-82.

 ²Vog. Pal. Faun. 3, 1921, p. 1818.
 ³Univ. Calif. Bull. Dept. Sci., Vol. 15, 1925, pp. 318-320.

Cothenburg, Nebr. 5206 Whiting, lowa 6256 Holly Springs, Iowa 6256 Holly Springs, Iowa 5215 Holly Springs, Iowa 5215 Whiting, Iowa 6260 Gothenburg, Nebr. 6252 Whiting, Iowa 6252 Whiting, Iowa 6252 Whiting, Iowa 6252 Whiting, Iowa 5209 Sloan, Iowa 5209 Sloan, Iowa 6258 Holly Springs, Iowa 5204 Sloan, Iowa 6258 Holly Springs, Iowa 6251 Holly Springs, Iowa 6251 Cothenburg, Nebr. 6251 Holly Springs, Iowa 6251 Cothenburg, Nebr. 6251 Elm Creek, Nebr. 6251 Elm Creek, Nebr. 6257 Elm Creek, Nebr. 6251 Elm Creek, Nebr. 6251 Elm Creek, Nebr.	Date November 29. April 18, 1886 April 18, 1887 April 18, 1887 April 9, — April 9, — April 9, 1886 November 26, — No date April 9, 1886 November 10, 1886 April 9, 1887 April 8, 1887 April 8, 1887 April 11, 1886 April 11, 1886	Sex Wing 17:60	Exp. Cul. 3.95 3.95 3.95 4.10 4.24 4.28 4.20 4.20 4.20 4.24 5.38 6.38 6.38 6.38 6.38 6.38 6.38 6.38 6	Nostril 2.75 2.75 2.76 2.88 2.72 2.95 2.72 2.72 2.70 2.70 2.70 2.70	Deptile 20	Tarsus 7.00 7.75 7.15 8.75 8.75 8.75 8.70 8.70 8.75 8.75 8.75 8.75 8.75 8.75 8.75 8.75	2.90 2.90 2.90 2.90 2.90 2.90 3.70 2.90 2.90	750 middle 2.82	Tail 6.25 6.20 6.20 6.20 6.20 6.20 7.20 7.20 7.20 7.20 7.20 7.20 7.20 7
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	26. 886 r. 10, 887 1884 1884 1886			2.65 2.72 2.88 2.70 2.70 2.15 2.15	1.02 9.99 9.99 7.88 88 88 88 88	8.75 9.00 8.50 7.75 8.25 7.00 6.00	2.90 3.60 3.70 2.90 8.20 8.20 8.20	2.84 3.28 3.14 3.16 3.26 2.65 2.71	7.00 6.75 7.25 7.00 6.10 6.60
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	April 8, 1887 April 28, 1884 No date April 8, 1887 April 11, 1886			2.92 2.70 2.22 2.15	99. 97. 88. 88.	8.75 8.25 7.00 6.00	3.70 3.70 2.90 80	3.26 3.10 2.65 2.71 2.58	7.00 6.10 5.50 6.60
	April 28, 1884 No date April 8, 1887 April 11, 1886			2.70 2.22 2.15 2.50	76. 78. 88. 88.	8.25 7.00 6.00	3.70 2.90 2.80	3.10 2.65 2.71 2.58	6.10 5.50 6.60
	No date April 8, 1887 April 11, 1886	_		2.22 2.15 2.50	88.82 88.83 88.83	7.00	2.90	2.65 2.71 2.58	5.50
	April 8, 1887 April 11, 1886			2.15	80 80 80 80	6.00	2.80	2.71	6.60
	April 11, 1886			2.50	88.	C L	20:1	2.58	009
	A:1 11 1007			000		0.50	2.50	2001	20:0
	April 11, 1007			7.00	.95	8.00	3.50	3.25	08.9
	November 29, —			2.82	76.	8.25	3.60	3.09	90.90
	April 6, 1886			2.72	1.01	8.25	4.10	3.30	6.50
				2.86	1.02	8.75	3.70	2.75	7.00
	November 10, 1886			2.95	66.	8.90	3.80	3.37	7.50
	November 5, 1884			3.02	1.00	8.25	4.00	3.38	7.00
	Grus	canadensis to	canadensis tabida (Peters	s)					
Museum	Date	W.:n.	Ryn Cul	From	Depth at	£	Bare	Middle	:
II-II- C	A:1 10 1007			0 9 9	Dase	o or	1101a	10e	Lan
	April 10, 1007			20.0	1.00	9.25	3.80	5.58	0.70
	April 12, 1660			3.20	1.04	8.50	3.70	3.34	00.7
	March 14, 1891			3.10	1.09	8.25	4.00	3.50	7.10
	April 4,			3.11	1.04	09.6	4.10	3.58	6.20
	No date	3 21.50	5.18	 	1.06	9.50	4.10	3.38	7.75
5202 Wood River, Nebr.	October 23, 1884			3.19	1.03	8.60	3.80	3.28	09.9

claw) proved to be tangible factors for determination between G. c. canadensis and G. c. tabida the measurements of tarsi, exposed portion of tibia, and length of tail so overlapped as to be of little value.

These specimens were secured for D. H. Talbot, of Sioux City, by his collectors at Holly Springs and Sloan, Woodbury County, and Whiting, Monona County, Iowa, during 1884-'86-'87; and at Kearney and Elm Creek, Buffalo County, Gothenburg, Dawson County, Plum Creek and Wolf Creek, Nebraska, during April and November 1884-'85-'86-'87.

It is impossible to say whether this material represents the approximate proportion of these two species as they formerly existed in migration through the Missouri River Valley, or whether a special effort was made by the Talbot collectors to secure a series of the Little Brown Crane.

The following ranges of measurements in inches for the two forms are based on the specimens as listed in the table below.

Grus canadensis canadensis (Linnaeus)

- Twelve males. Wing (measured along the arc, with a tape, 17.60 to 20.30; exposed culmen, 3.70 to 4.40; depth of culmen at base, .93 to 1.02; bill from nostril, 2.40 to 2.95; tarsus, 6.50 to 9.00; exposed portion of tibia, 2.50 to 4.00; length of middle toe (without claw), 2.82 to 3.38; length of tail, 6.00 to 7.25.
- Eight females. Wing, 17.70 to 20.40; exposed culmen, 3.58 to 4.30; depth of culmen at base, .88 to 1.02; bill from nostril, 2.15 to 3.02; tarsus, 6.00 to 8.90; exposed portion of tibia, 2.50 to 4.10; length of middle toe, 2.58 to 3.38; length of tail, 6.00 to 7.50.

Grus canadensis tabida (Peters)

- Five males. Wing, 20.40 to 21.50; exposed culmen, 4.78 to 5.18; depth of culmen at base, 1.04 to 1.09; bill from nostril, 3.10 to 3.38; tarsus, 8.25 to 9.60; exposed portion of tibia, 3.70 to 4.10; length of middle toe, 3.34 to 3.58; length of tail, 6.20 to 7.75.
- One female. Wing, 20.25; exposed culmen, 4.75; depth of culmen at base, 1.03; bill from nostril, 3.19; tarsus, 8.60; exposed portion of tibia, 3.80; length of middle toe, 3.28; length of tail, 6.60.

Museum of Natural History, University of Iowa. Iowa City, Iowa.